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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/856,142

05/30/2001

Hideaki Nara

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09/14/2004

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1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

KADING, JOSHUA A

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/856,142

Applicant(s)

NARA, HIDEAKI

Examiner

Joshua Kading

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10-04-01.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10 Claims 1-3, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling (U.S. Patent 5,410,568) in view of Drakopoulos et al. (U.S. Patent 5,506,848).

15 Regarding claim 1, Schilling discloses "a packet transmission device, comprising:  
a buffer for temporarily holding and then outputting in time slots inputted packets (figure 1, elements 53, 63, 73, etc are buffers for each coded signal which are placed in their appropriate time slots each frame as seen in figures 5 and 6);  
transmitting means for code division multiplexing and transmitting the packets  
20 outputted from the buffer (figure 1, element 98 is an antenna for receiving and transmitting)."

However, Schilling lacks what Drakopoulos discloses, "detecting means for detecting the number of packets held in the buffer (col. 6, lines 20-25 whereby determining if there are the same number of packets stored, in a buffer for instance, as  
25 can be transmitted in a frame, then the number of packets stored has been determined);  
control means for controlling the number of packets outputted by the buffer in each time

slot on the basis of the number of packets detected by the detecting means (col. 6, lines 20-30 where the scheduler controls the outputted packets)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the detecting means and the control means for the purpose of only transmitting data when there is sufficient capacity over the network to do so (Drakopoulos, col. 6, lines 13-19). The motivation for only transmitting when there is sufficient capacity is so that there is a lower chance of lost data packets.

Although claims 6 and 7 are broader in scope than claim 1, certain limitations of claim 1 are identical to those in claims 6 and 7. Therefore, the corresponding limitations of claim 1 seen in claims 6 and 7 are rejected for the same reasons as those in claim 1. This includes the method steps implemented in claim 7 which must be implemented by a device such as those described in claim 1.

Regarding claim 2, Schilling and Drakopoulos disclose the device of claim 1. However, Drakopoulos lacks what Schilling further discloses, "the transmitting means code division multiplexes packets outputted simultaneously from the buffer and transmits these multiplexed packets with directivity (figure 5 is the result of the multiplexing of the signals as seen in figure 1 and then transmitted using antenna 98 and although it is not stated that the data is transmitted with directivity, all transmissions must be transmitted with directivity because directivity is a degree of measuring the ability of an antenna to focus its transmission energy if it were 100% efficient and all

antennas have a degree to which they focus their energy – it should be noted if this is not what applicant means by directivity, applicant must (see MPEP 2106.II.C) clearly define the meaning in the specification).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the directivity of the

5 transmission for the same reasons and motivation as in claim 1.

Regarding claim 3, Schilling and Drakopoulos disclose the device of claim 1. However, Schilling lacks what Drakopoulos further discloses, “the detecting means detects the number of packets inputted to the buffer before a predetermined time and  
10 held in the buffer (col. 6, lines 20-25 whereby determining if there are the same number of packets stored, in a buffer for instance, as can be transmitted in a frame, then the number of packets stored has been determined) and detects the number of packets to be inputted to the buffer in a predetermined period after the predetermined time (col. 6, lines 20-25 where there is no reasons to expect that the ability of the system to  
15 determine the number of packets is time slot specific, i.e. if the system can determine the packets for one frame (period of time), it can determine the number of packets for any period of time), and the control means controls the number of packets outputted in each time slot on the basis of the detected number of packets inputted before the predetermined time and held in the buffer (col. 6, lines 20-30 where the scheduler  
20 controls the outputted packets) and the number of packets to be inputted in the predetermined period after the predetermined time (col. 6, lines 20-30 again, if the system can control the output of packets during one period of time, it can do it for any

period of time).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the determining of the number of packets and the control of the transmission of packets for the same reasons and motivation as in claim 1.

5           Regarding claim 5, Schilling and Drakopoulos disclose the device of claim 1. However, Drakopoulos lacks what Schilling discloses, that the buffer of claim 1 is a FIFO buffer. The very nature of a buffer, that of storing incoming data for an appropriate time then outputting it, means that the data that is first input is first to be output. Further, a buffer is simply a store and forward device, it is not a packet reorganization device,  
10           and thus there is no reason to believe that packets first in would not be first out. It would have been obvious to one with ordinary skill in the art at the time of invention to include the FIFO buffer for the same reasons and motivation as in claim 1.

            Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling  
15           and Drakopoulos et al. as applied to claim 1 above, and further in view of luoras et al. (U.S. Patent 6,445,707 B1).

            Regarding claim 4, Schilling and Drakopoulos disclose the device of claim 1. However, Schilling and Drakopoulos lack what luoras discloses, “detects...the time for which each of these packets has been held in the buffer (col. 32, lines 38-47 whereby  
20           assigning the value of the time and checking the value to see if the timer has expired means the time is detected for each packet)” and “placing an upper limit on the time for which any packet is held in the buffer (col. 32, lines 38-47 where the initial value

assigned to the timer for a given packet is the upper limit, this is suggested by the fact that the timer expires, thus there must be a limit)." It would have been obvious to one with ordinary skill in the art at the time of invention to include a timer for the purpose of determining the number of time slots available in a given frame for a certain class of traffic (luoras, col. 32, lines 38-49). The motivation for determining the number of time slots available is so that neither too much nor too little data is outputted, thus optimizing the resources of the system.

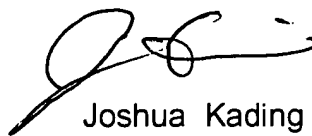
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/856,142  
Art Unit: 2661

Page 7

A handwritten signature in black ink, appearing to read 'J. Kading', with a stylized flourish at the end.

Joshua Kading  
Examiner  
Art Unit 2661

September 3, 2004

A handwritten signature in black ink, appearing to read 'K. Vanderpuye', with a stylized flourish at the end.  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**